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EXAMINER	
KANG, INSUN	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Nelson (reg. 43,829) on 8/25/2008.

2. The application has been amended as follows:

1. (Currently Amended) An analysis method, comprising:

identifying at least one construct in a program, wherein the program comprises native instructions for execution on a first processor having a first machine instruction set;

assigning at least one native instruction of the program proximate the construct to be a trigger to invoke analysis code;

generating a trigger map file that stores information specifying instrumented triggers in the program including the assigned trigger and further stores information indicative of the assigned native instruction of the assigned trigger;

generating a trigger parameter file that stores information for providing parameter information for the specified triggers in the program and further stores information for determining analysis code to be invoked in response to the trigger; and

interpreting by using the information stored in the trigger map file and the information stored in the trigger parameter file, via an interpreter, the program on a second processor having a second machine instruction set;

during the interpretation and upon interpreting the assigned native instruction,

identifying the assigned native instruction as the trigger; and

invoking the analysis code by the interpreter at the identified construct in response to identifying the trigger wherein the analysis code includes machine instructions of the second machine instruction set for execution directly on the second processor, and wherein the analysis code and the interpreter communicate via a predefined interface.

10. (Currently Amended) A method, comprising:

storing a compiled analysis binary program, wherein the analysis binary program includes machine instructions from a first machine instruction set, and wherein the analysis binary program is configured to analyze or trace state information of an interpretable program, wherein the interpretable program comprise native machine instructions of a second machine instruction set;

assigning at least one native instruction of the interpretable program proximate a selected construct to be a trigger to invoke the analysis binary program;

generating a trigger map file that stores information specifying instrumented triggers in the program including the assigned trigger and further stores information indicative of the assigned native instruction of the assigned trigger;

generating a trigger parameter file that stores information for providing parameter information for the specified triggers in the program and further stores information for determining analysis code to be invoked in response to the trigger; and

interpreting by using the information stored in the trigger map file and the information stored in the trigger parameter file, via an interpreter comprising machine instructions from the first machine instruction set and executing on a processor configured to execute the first machine instruction set, the interpretable program, and

during the interpreting, upon encountering the assigned native instruction proximal a selected construct in the interpretable program, identifying the assigned native instruct as the trigger and invoking the analysis binary program by the interpreter and providing at least one item of state information about the execution of the interpretable program in response to identifying the trigger.

24. (Currently Amended) An analysis ~~or testing~~ system, comprising:

a storage for storing an analysis binary code, wherein the analysis binary code includes machine instructions from a first machine instruction set, and wherein the binary code is configured to analyze or trace state information of an interpretable program; and

a processor configured to execute an interpreter program for interpreting the interpretable program, wherein the interpretable program includes machine instructions from a second machine instruction set,

wherein the processor is configured to execute machine instructions from the first machine instruction set, and

wherein the processor is configured to:

receive an assignment of at least one native instruction proximate a selected construct of the interpretable program to be a trigger to invoke the analysis binary code;

generate a trigger map file that stores information specifying instrumented triggers in the program including the assigned trigger and further stores information indicative of the assigned native instruction of the assigned trigger;

generate a trigger parameter file that stores information for providing parameter information for the specified triggers in the program and further stores information for determining analysis code to be invoked in response to the trigger,

wherein the interpreter program is configured to interpret the program by using the information stored in the trigger map file and the information stored in the trigger parameter file,

and during the interpreting, upon encountering and interpreting the assigned native instruction, the processor is configured to identify the assigned native instruction as the trigger and conditionally invoke the binary code and provide at least one item of state information about the execution of the program in response to identifying the trigger.

27. (Currently Amended) The system of Claim 24, wherein ~~wherein~~ the processor is further configured to insert the trigger instruction proximate to the selected construct.

31. (Currently Amended) An analysis method, comprising:

assigning at least one native instruction of a first machine instruction set proximate a selected construct of a binary program to be a trigger to invoke analysis code;

generating a trigger map file that stores information specifying instrumented triggers in the program including the assigned trigger and further stores information indicative of the assigned native instruction of the assigned trigger;

generating a trigger parameter file that stores information for providing parameter information for the specified triggers in the program and further stores information for determining analysis code to be invoked in response to the trigger;

interpreting, by using the information stored in the trigger map file and the information stored in the trigger parameter file, the binary program by an interpreter on a first processor, wherein the binary program is configured for native execution on a second processor,

wherein during the interpretation and upon interpreting the assigned native instruction, identifying the assigned native instruction as the trigger; and

invoking, in response to the identifying, the analysis code by the interpreter at the trigger instruction in the binary program, wherein the analysis code includes machine instructions for processing directly on the first processor, and wherein the analysis code has been compiled prior to the execution of the interpreter; and

executing the binary program, including the trigger instruction, natively on the second processor.

37. (Currently Amended) A computer readable storage medium having stored thereon instructions that when executed cause a first processor of computer to:

assign at least one native instruction proximate a construct of a binary program to be a trigger to invoke analysis code;

generate a trigger map file that stores information specifying instrumented triggers in the program including the assigned trigger and further stores information indicative of the assigned native instruction of the assigned trigger;

generate a trigger parameter file that stores information for providing parameter information for the specified triggers in the program and further stores information for determining analysis code to be invoked in response to the trigger; and

interpret by using the information stored in the trigger map file and the information stored in the trigger parameter file and by an interpreter a binary program on the first processor, wherein the binary program includes machine instructions from a machine instruction set of a second processor, wherein during the interpretation, and upon encountering a selected machine instruction from the machine instruction set of the second processor:

identify the assigned native instruction as the trigger, and

invoke the analysis code by the interpreter via a predefined interface and executed natively on the first processor in response to identifying the trigger, wherein the analysis code includes native machine instructions for processing directly on the first processor.

38. (Currently Amended) The computer readable storage medium of Claim 37, additionally comprising a predefined application programming interface that is defined by the interpreter so as to allow the analysis code to register and to define one or more callback routines.

39. (Currently Amended) The computer readable storage medium of Claim 37, wherein interpretation comprises emulation.

40. (Currently Amended) The computer readable storage medium of Claim 37, wherein interpretation comprises simulation.

50. (Currently Amended) The system of Claim 24, wherein the native trigger instruction comprises at least one machine instruction that does not substantially affect the performance of the interpretable.

3. These amendments were necessary in order to further clarify the claims and obviate any rejection under 35 U.S.C. 101 and 112 2nd .

Examiner's Statement of Reason(s) for Allowance

4. Claims 1-17, 19-27, 29-40, and 48-55 (renumbered as 1-46) are allowed.

The following is an examiner's statement of reason s for allowance:

The closest prior art of record, i.e. Dimpsey, taken alone or in combination, fails to teach or fairly suggests at least: generating a trigger map file that stores information specifying instrumented triggers in the program including the assigned trigger and further stores information indicative of the assigned native instruction of the assigned trigger; generating a trigger parameter file that stores information for providing parameter information for the specified triggers in the program and further stores information for determining analysis code to be invoked in response to the trigger; and interpreting by using the information stored in the trigger map file and the information stored in the trigger parameter file, via an interpreter, the program on a second processor having a second machine instruction set; as recited in the independent claims.

While Dimpsey discloses dynamic instrumentation of hotspots, Dimpsey, ultimately does not disclose generating a trigger map file that stores information specifying instrumented triggers in the program including the assigned trigger and further stores information indicative of the assigned native instruction of the assigned trigger; generating a trigger parameter file that stores information for providing parameter information for the specified triggers in the program and

further stores information for determining analysis code to be invoked in response to the trigger; and interpreting by using the information stored in the trigger map file and the information stored in the trigger parameter file, via an interpreter.

5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

6. * Note: Non-compliance existed in the amendment filed on 5/19/2008:

The single bracket [] was used in the claims 1, 24, 31, and 37 in attempt to delete the single characters. It has been replaced with double bracket [[]].

Claims 48-55 added on 5/19/2008 with the missing identifier "New" had been entered as "New."

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to INSUN KANG whose telephone number is (571)272-3724. The examiner can normally be reached on M-R 7:30-6 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lewis A. Bullock, Jr. can be reached on 571-272-3759. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information

Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Insun Kang/
Examiner, Art Unit 2193